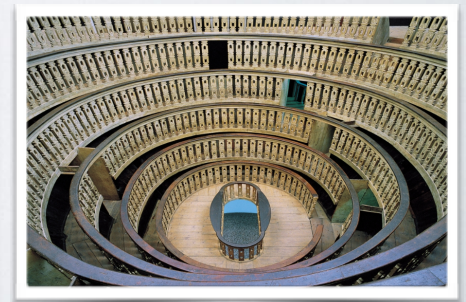


# ADDRESSING INDIVIDUAL DIFFERENCES BETWEEN READERS IN TEXT SIMPLIFICATION

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# LITERACY AS FREEDOM

- Human development is about “expanding the real freedoms that people enjoy”

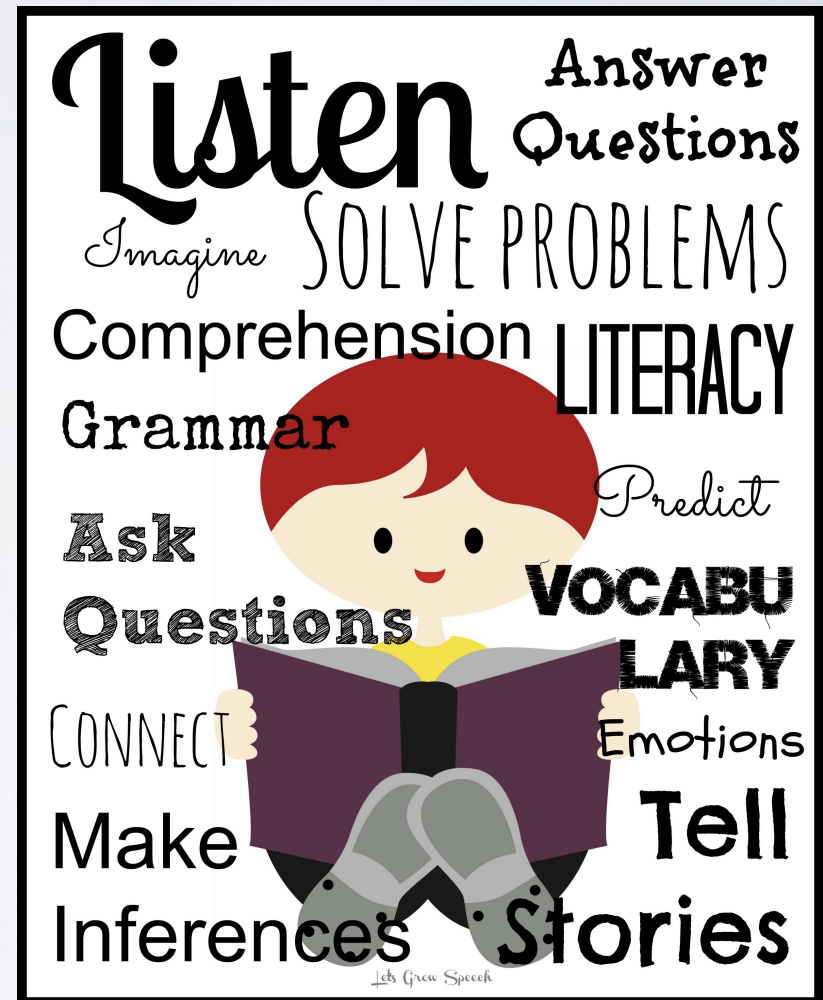
Amartya Sen

- The UNESCO embraced this view in the slogan “Literacy as Freedom”



# READING IS THE KEY TO LITERACY

- From the age of 7-8 to the age of 11 reading skills develop enormously (from decoding to reading comprehension) and children develop as independent readers





# FROM 5 TO 10% STUDENTS..

- Approximately 5% -10% of our school children demonstrate significant text comprehension difficulties (Catts et al., 2006; Lyon, Fletcher, and Barnes, 2003).
- Such incidence increases dramatically in children with language learning problems (Arfé, 2015) and/or intellectual disabilities (Fajardo et al., 2014)
- The fruition of (school-)age appropriate texts is extremely hard for these young readers!
- Reading is for them an unfruitful activity

The shift from learning to read to reading to learn



# TEXT SIMPLIFICATION

- A method to supply students with material which is at an appropriate level of difficulty for their language and reading skills.





# A MISMATCH BETWEEN READERS' SKILLS AND TEXT DIFFICULTY

- Makes access to information more challenging
- Or...makes reading boring and not motivating.
- Generates disengagement



# MATCHING TEXT DIFFICULTY TO READERS' SKILLS...

- Struggling readers may differ significantly in their cognitive and linguistic skills
- Often, systems of text simplification offer a single level of text simplification, consisting in a linguistic and systematic simplification of the text.





# SYSTEMATIC SIMPLIFICATION

- Syntactic constructions involving subordination replaced by coordinative sentences.
- Conjunctions and anaphors removed.
- Texts can become longer and/or more fragmented
- Are these simplified texts easier to read?

**ADATTAMENTO DEI MATERIALI**

Testo originale

Testo facilitato e semplificato

**Protagonisti anticipati e illustrati**

**Lessico e sintassi semplificati**

**Sequenze illustrate**

**Interlinea ampia, CARATTERE facilitante, allineamento a sinistra**

**Operative e verifiche adatte**

**Struttura stabile delle informazioni in tutte le pagine**

**Testi facilitati e semplificati (OpenBook e Guida 1-2-3)**  
i testi adattati mantengono gli elementi essenziali del testo originale, modificandone tuttavia la struttura grafica e la complessità linguistica

**FABBRI EDITORI** **Erickson**



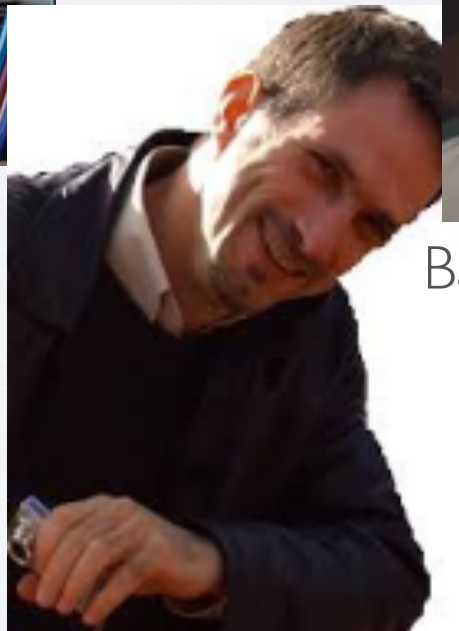
# THE TEXT SIMPLIFICATION IN TERENCE



Jane Oakhill- University of Sussex



Barbara Arfé- University of Padova



Emanuele Pianta, FBK

# THE METHOD INTERENCE

Inspired by cognitive models of reading comprehension.

1. Simplifications at cognitive level are necessary to improve comprehension
2. The aim of text simplification is not simply to reduce the linguistic complexity of the text, but to improve its coherence.





# POOR READERS..

3. An extremely heterogenous group  
(Catts et al, 2006; Cain & Oakhill, 2006).  
They may show problems in:

- **inference-making skills** and the ability to integrate information distant in the text
- **understanding of coherence markers**, which signal relations between adjacent information in the texts
- **grammatical and vocabulary skills**



# INDIVIDUAL DIFFERENCES BETWEEN READERS

- We developed different and graded levels of text simplification to adapt to inter-individual differences between readers





# THREE CUMULATIVE LEVELS OF TEXT SIMPLIFICATION

- **Level 4. Original story.** Authentic story
- **Level 3. Global coherence** increased: it makes explicit the information necessary to understand the general meaning of the story, the sequence of events, their location or moral!
- **Level 2. Local coherence** increased: the text is further simplified at the local level, establishing more clear and explicit relations between its sentences
- **Level 1. Lexicon-grammar:** the text is also simplified in terms of its lexicon and grammar.



# PARTICIPANTS

- 194 primary school children, mean age 9,2 (range: 7-11 years). Divided in four reading groups
- Girls 109
- L2 learners=38
- Certified=22

RC group	N
Very good	26
Good	102
Poor	39
Very poor	27



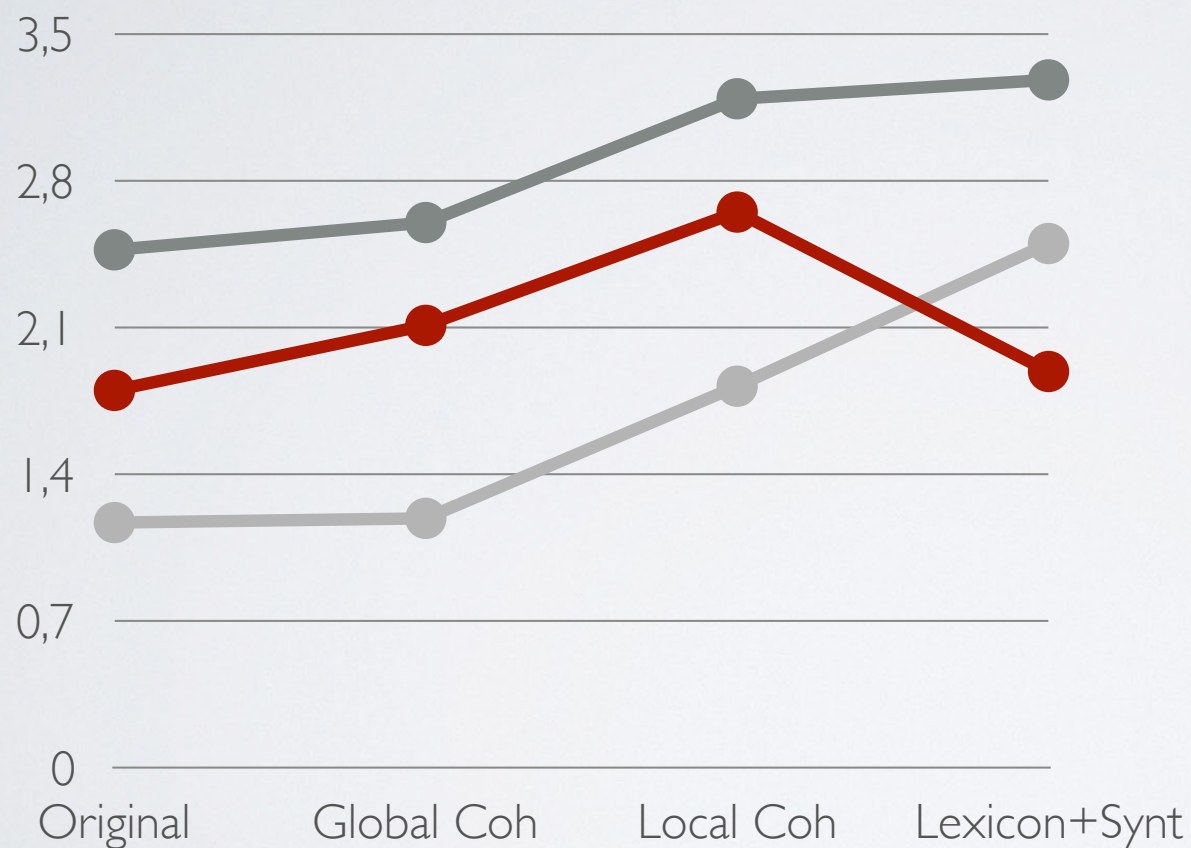
# STORY LEVELS

- Each child read two different stories (story A and story B) at two different levels of text simplification (e.g. child 1 read story A L2 and story B L4)
- Responded to 12 comprehension questions assessing global coherence inferences (i.e. fill in gaps), local coherence inferences (i.e., link adjacent sentences or information) or the ability to retrieve literal information

Story level	n participants
L4- original	102
L3-global coherence	101
L2-local coherence	104
L1-lexicon-grammar	94

# RESULTS:

## GLOBAL COHERENCE INFERENCES



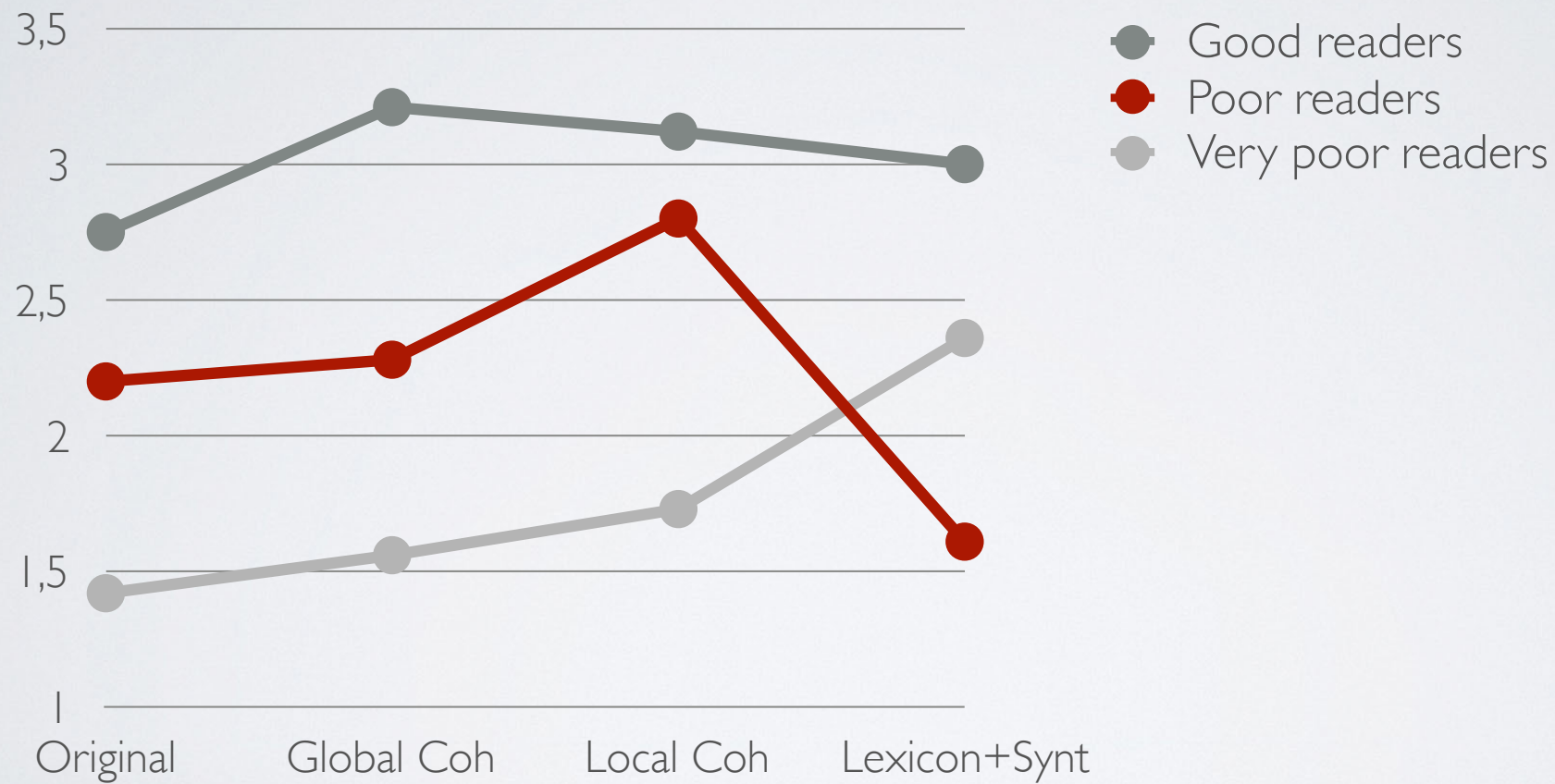
- Good readers
- Poor readers
- Very poor readers

- Poor and very poor comprehenders showed a marked improvement in comprehension between levels 4 (original) and 2 (Local Coherence).
- However, the poor comprehenders' performance declined between levels 2 and 1 (lexicon-syntax).



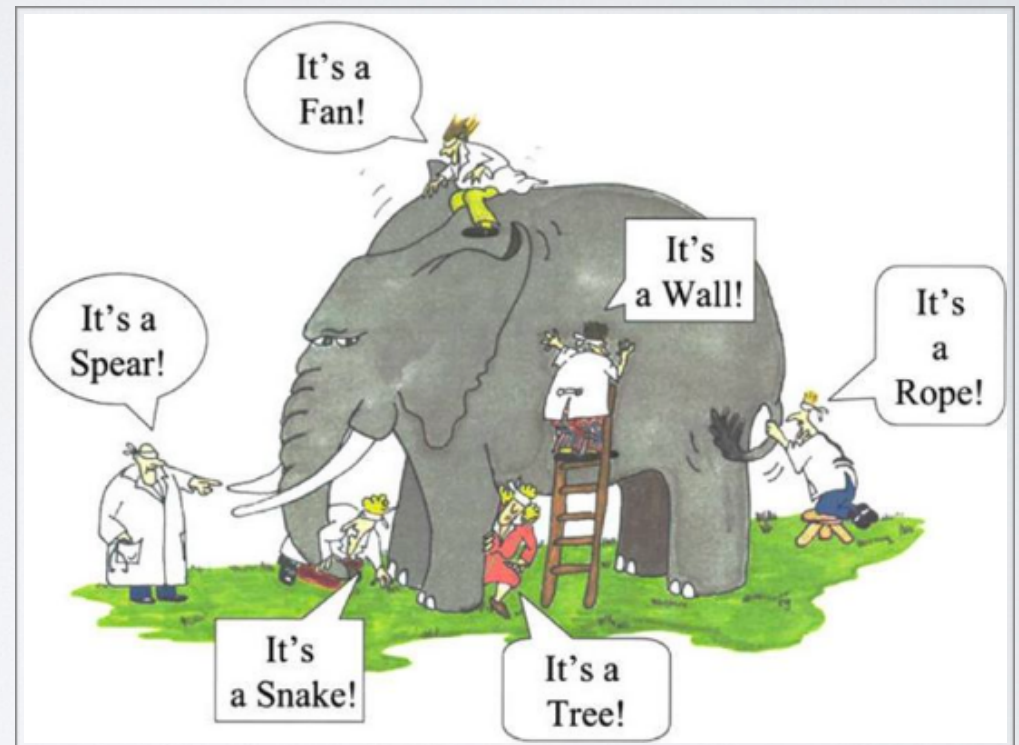
# RESULTS:

## LOCAL COHERENCE INFERENCES



# CONCLUSIONS

- Text simplification interacts with the characteristics of the reader (McNamara & Kintsch, 1996; McNamara et al., 1996)





# RECOMMENDATIONS

- Consider the “cognitive” needs of the reader
- Produce different levels or kinds of text simplification to provide readers with appropriate challenges for their cognitive and linguistic skills
- Minimize simplifications and preserve as much as possible the original style
- Avoid SYSTEMATIC simplifications;



“I was surrounded by areas of darkness. School elucidated nothing for me. I was crammed with facts and formulas. Everything had to be learned by heart; everything was abstract for me. Again, I do not believe there was a plan or plot to make our courses like that. What we were getting was standard school learning..  
[..] When I became a writer those areas of darkness around me as a child became my subjects”

-V. S. Naipaul , Nobel-Lecture 2001

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